

F110

规格书 (Datasheet)

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1 产品概述

1.1 产品简介

繁易工业触摸屏 F1 系列新一代人机界面，独具创新性的结构设计，以 7 寸人机界面开孔尺寸的机身，提供 10.1 寸宽屏窄边框的全新视觉体验。造型美观，尺寸紧凑，适配更多中小型设备及应用场景。磁吸式前面板和固定框设计带来单人安装的便利。内置物联网功能和 SIM 卡，只需配置天线即可实现设备上云，方便设备制造商和最终用户对设备进行远程监控、管理和服务。更快更强的处理器平台和内置扬声器，带来人机界面音频播放的巨大提升。

1.2 产品外观



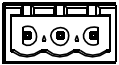
2 产品规格

分类	项目	参数
硬件参数	显示屏	10.1 英寸, 16:10 TFT LCD 屏
	分辨率	800×1280
	色彩	24 位
	亮度	400 cd/m ²
	背光	LED
	LCD 寿命	50000 小时
	触摸屏	Glass+Glass 投射式多点电容触摸屏
	CPU	Cortex-A7 (主频 1GHz, 双核)
	存储器	256MB DDR3+4GB eMMC
	RTC	实时时钟内置
	以太网接口	1 个 10M/100M 自适应 RJ-45 接口
	SD 卡	不支持
	蓝牙	支持
	USB 端口	1 个 USB Type-C 2.0 接口, 1 个 USB Type-A 2.0 接口
	程序下载方式	Type-C /U 盘/以太网
	串行通讯端口	COM1:RS232/RS485/RS422 COM2:RS485 COM3:RS232
液晶可视角度 (T/B/L/R)	85° /85° /85° /85°	
软件参数	VPN 透传	支持
	数据监控	300 点, 支持定时上传或变化上传
	报警推送	100 点, 支持客户端推送、短信推送、微信公众号推送
	历史数据	100 点, 支持掉线续传, 离线每点可存 5w 条, 云端保留 180 天
	边缘计算	30 点, 支持脚本编程
	网络协议	20 点, 支持超过百种工业设备协议
	管理与维护	支持远程升级固件, 支持配置文件导入导出, 支持云下载更新组态

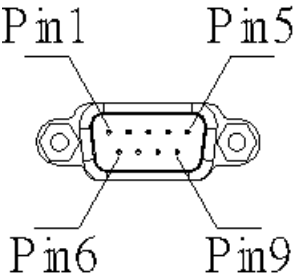
分类	项目	参数
电气规格	额定功率	<10W
	额定电压	DC24V, 可工作范围 DC 9V~28V
	电源保护	具备雷击浪涌保护
	允许失电	<5mS
	CE&RoHS	符合 EN61000-6-2:2005, EN61000-6-4:2007 标准 符合 RoHS 雷击浪涌±1kV, 群脉冲±2kV; 静电接触 4kV, 空气放电 8kV
环境要求	工作温度	-10~60℃
	存储温度	-20~70℃
	防紫外线	禁止在强紫外线环境下工作 (例如阳光直射)
	环境湿度	10%~90%RH (无冷凝)
	抗震性	10~25Hz (X、Y、Z 方向 2G/30 分钟)
	冷却方式	自然风冷
机械特性	防护等级	前面板符合 IP65 (配合平整盘柜安装), 机身后壳符合 IP20
	机械结构	铝合金前壳+ABS 后壳
	开孔尺寸	138mm×192mm
	整机尺寸	158mm×249mm×30mm
	整机重量	约 900g

3 接线定义


3.1 电源端子

电源端子 (Pin1~Pin3 从左至右)	引脚	功能
	Pin1	FG
	Pin2	0V
	Pin3	DC 24V

3.2 DB9 串口

	引脚	COM1(RS485)	COM1(RS422)	COM1(RS232)	COM3(RS232)
	Pin1	B-	Rx-		
	Pin2			RxD	
	Pin3			TxD	
	Pin4		Tx-		
	Pin5			GND	GND
	Pin6	A+	Rx+		
	Pin7				RxD
	Pin8				TxD
	Pin9			Tx+	

3.3 RS485 串口

485 端子 (Pin1~2 由左至右)	引脚	功能
	Pin1	A+ (COM2 RS485)
	Pin2	B- (COM2 RS485)

3.4 物联网卡接口和天线接口

物联网卡接口和天线接口	引脚	功能

 <p>SIM 卡卡槽 4G 天线接口</p>	<p>SIM 卡卡槽和天线接口</p>	<p>SIM 卡插入接口 4G 天线接口（标配 FEA-YT 天线）</p>
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3.5 以太网接口

RJ45 接口，用于与支持以太网协议的设备（如 PLC、服务器等）进行通讯。



3.6 USB Type-C 2.0 接口

USB Slave 接口，用于下载程序。



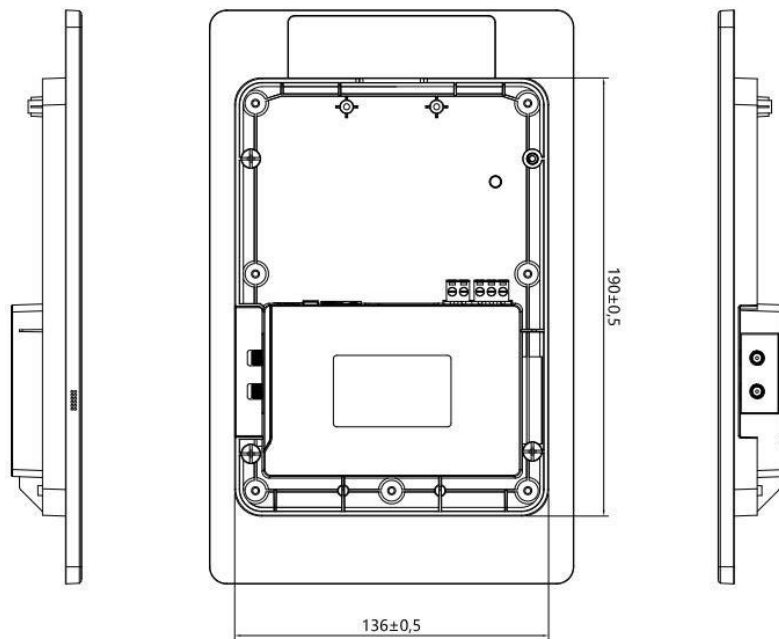
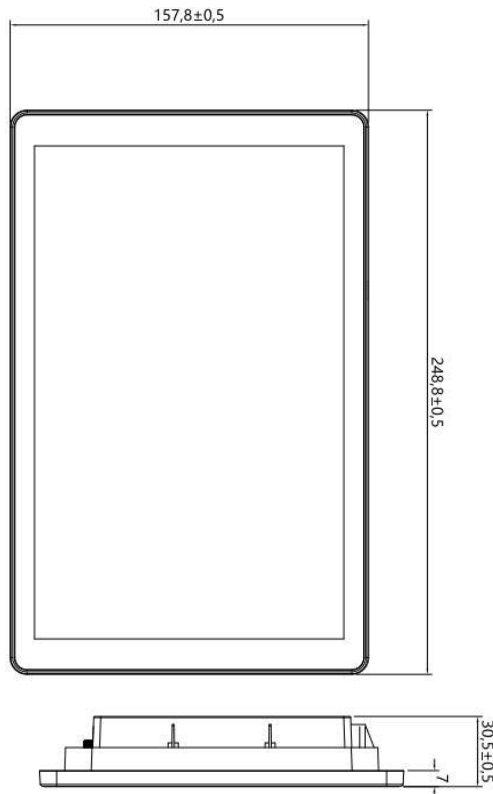
3.7 USB Type-A 2.0 接口

USB Host 接口，用于连接 U 盘、扫码枪等外设。



4 产品尺寸

尺寸单位: mm



嵌入式安装开孔尺寸: 138mm×192mm

5 Product Overview

5.1 Product introduction

Flexem Industrial touch screen F1 series HMI, with innovative structure design, with 7inch interface hole size, to provide 10.1inch wide screen narrow frame new view experience, with beautiful outlook and compact size, it is suitable for many small and medium devices application. Magnetic front panel and fixed frame design brings convenience for the installation. With built-in IOT and SIM card, you can only choose to equip antenna to realize devices to enable the device to send the data to the cloud server, convenient manufacture and end user to monitor, manage and serve for devices. Stronger and faster processor platform and built-in loudspeaker to improve human machine interface audio play experience.

5.2 Product Appearance



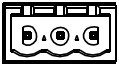
6 Specifications

Category	Item	Description
Hardware	Display	10.1" 16:10 TFT LCD
	Resolution	800×1280
	Colors	24-bit
	Brightness	400 cd/m ²
	Backlight	LED
	LCD Lifetime	50000 hours
	Touch Panel	Glass+Glass Projection multi-point capacitive touch screen
	CPU	Cortex-A7(main frequency is 1GHz,dual-core)
	Storage	256MB DDR3+4GB eMMC
	RTC	Built-in
	Ethernet	1* 10M/100M self-adaptive RJ45 port
	SD Card	NA
	Bluetooth	Support
	USB Port	1*Type-C 2.0 port;1*USB Type-A 2.0port
	Program Download Method	USB Slave/U disk/Ethernet
Serial Port	COM1:RS232/RS485/RS422 COM2: RS485 COM3:RS232	
LCD Viewing Angles (T/B/L/R)	85° /85° /85° /85°	
Software Parameters	VPN Pass-through	Supporting
	Data Monitoring	500 and it supports regular upload or variable upload
	Alarm Push	200,it supports clients push, SMS push, wechat public NO push
	Historical Data	100, it supports offline transfer, offline each number can store 5W and it can keep for 180 days for cloud.

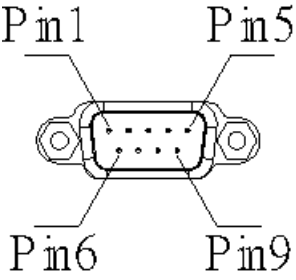
Category	Item	Description
	Edge Computing	It supports script programming.
	Network Protocol	It supports over hundreds of industrial devices protocol.
	Managing and Maintenance	It supports remote firmware upgrading, equipping files lead in and lead out, cloud downloading of update configuration.
Electrical feature	Rated Power	<10W
	Rated Voltage	DC24V,operational range:DC 9V~28V
	Power Protection	Lightning surge protection
	Power Interruption Tolerance	<5ms
	CE&RoHS	EN61000-6-2:2005 and EN61000-6-4:2007 standards certified;RoHS certified;lightning surge±1kV; group pulse±2kV;electrostatic contact 4kV,air discharge 8kV
Environmental requirement	Operating Temperature	-10~60°C
	Storage Temperature	-20~70°C
	UV Resistance	Operating in high UV environment is prohibited(e.g.,in direct sunlight)
	Environmental Humidity	10%~90%RH(non-condensing)
	Vibration Endurance	10~25Hz(X/Y/Z direction,2G/30 minutes)
	Cooling Method	Natural air cooling
Mechanical feature	Protection Level	Front:IP65(with flush panel cabinet installation),Rear:IP20
	Enclosure Material	Aluminum front panel+ ABS back cover.
	Cutout Dimensions	138mm×192mm
	Dimensions	158mm×249mm×30mm
	Weight	About 900g

7 Wiring Definition


7.1 Power Terminal

Power Terminal(Pin 1~3 from left to right)	Pin	Description
	Pin1	FG
	Pin2	0V
	Pin3	DC 24V


7.2 DB9 Serial Port

	Pin	COM1(RS485)	COM1(RS422)	COM1(RS232)	COM3(RS232)
	Pin1	B-	Rx-		
	Pin2			RxD	
	Pin3			TxD	
	Pin4			Tx-	
	Pin5			GND	GND
	Pin6	A+	Rx+		
	Pin7				RxD
	Pin8				TxD
	Pin9			Tx+	

7.3 RS485 Serial Port

RS485 Terminals (Pin 1~2 from left to right)	Pin	Description
	Pin1	A+ (COM2 RS485)
	Pin2	B- (COM2 RS485)

7.4 IoT card interface and antenna interface

IoT card interface and antenna interface	引脚	功能
 <p data-bbox="411 504 566 593">SIM Card Slot 4G Antenna Connection</p>	<p data-bbox="593 436 903 515">SIM card Slot and Antenna Connection</p>	<p data-bbox="925 407 1428 548">SIM Card Inserting Connection 4G antenna connection(equipped with FEA-YT antenna)</p>

7.5 Ethernet Port

RJ45 port for Ethernet communication with the controller or server.



7.6 USB Type-C 2.0 Port

USB Slave port, Used for program download.



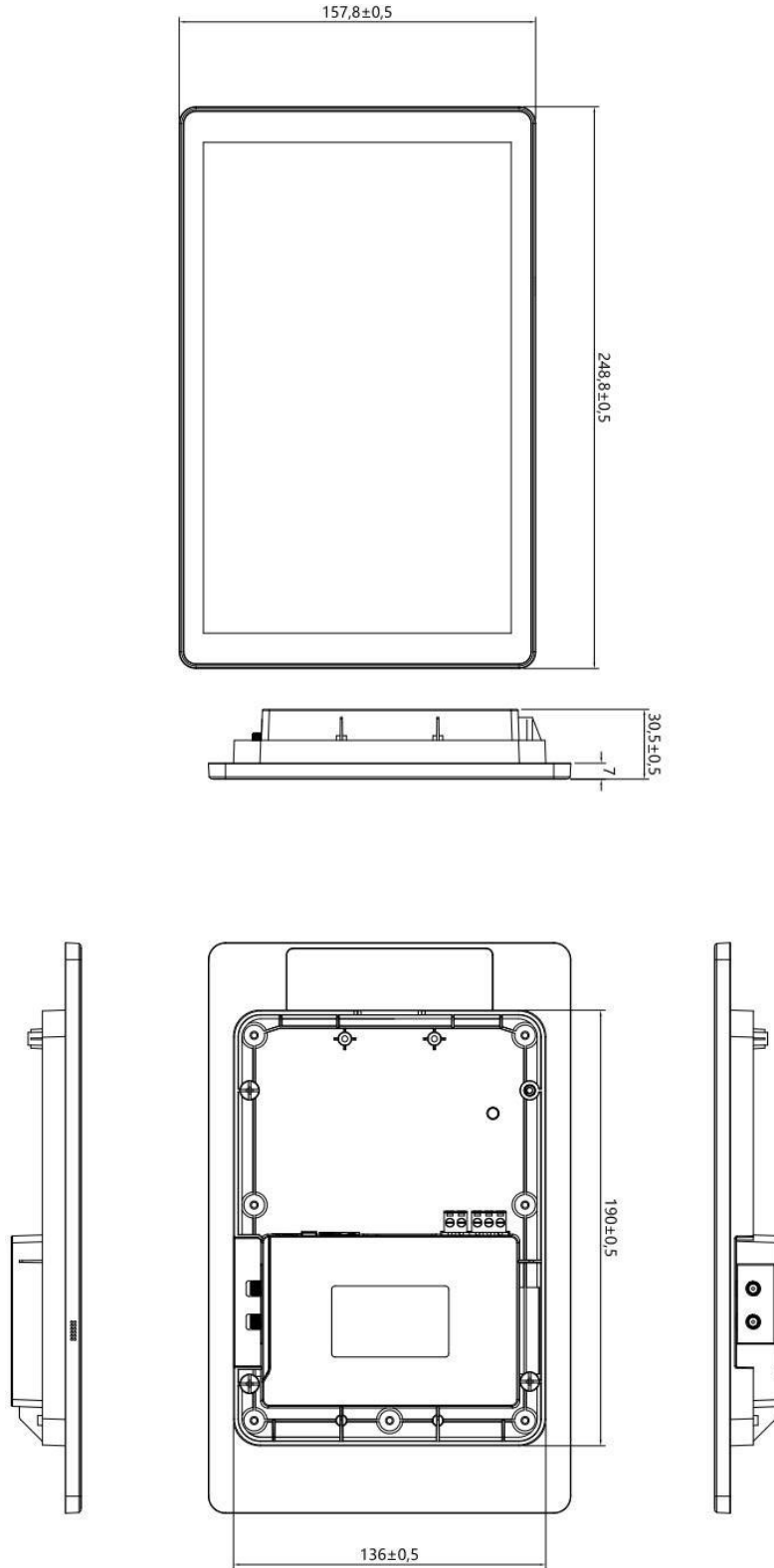
7.7 USB Type-A 2.0 Port

USB Host port, Used for connecting peripheral devices, such as Flash drive or bar code scanner.



8 Dimension

Unit: mm



Flush-mounted installation cutout dimensions: $138\text{mm} \times 192\text{mm}$